

PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)
(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference 31889	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. CT/AU2004/001537	International filing date (day/month/year) 5 November 2004	Priority date (day/month/year) 6 November 2003	
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ C08F 16/34, A01N 35/02, A61P 31/04, A61K 31/78			
Applicant CHEMEQ LTD et al			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
- a. ☒ (sent to the applicant and to the International Bureau) a total of 1 sheets, as follows:
- ☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
- ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
- b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items:
- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 6 May 2005	Date of completion of the report 26 September 2005
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer GAYE HOROBIN Telephone No. (02) 6283 2069

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AU2004/001537

Box No. I Basis of the report

With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of:

☐ international search (under Rules 12.3 and 23.1 (b))

☐ publication of the international application (under Rule 12.4)

☐ international preliminary examination (under Rules 55.2 and/or 55.3)

With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☐ the international application as originally filed/furnished

☒ the description:

pages 1-11 as originally filed/furnished

pages* received by this Authority on with the letter of

pages* received by this Authority on with the letter of

☒ the claims:

pages 13-14 as originally filed/furnished

pages* 15 as amended (together with any statement) under Article 19

pages* received by this Authority on with the letter of

pages* received by this Authority on with the letter of

☐ the drawings:

pages as originally filed/furnished

pages* received by this Authority on with the letter of

pages* received by this Authority on with the letter of

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

☐ the description, pages

☒ the claims, page 12.

☐ the drawings, sheets/figs

☐ the sequence listing (*specify*):

☐ any table(s) related to the sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages

☐ the claims, Nos.

☐ the drawings, sheets/figs

☐ the sequence listing (*specify*):

☐ any table(s) related to the sequence listing (*specify*):

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AU2004/001537

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Statement

Novelty (N)	Claims 1-27	YES
	Claims	NO
Inventive step (IS)	Claims 1-27	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-27	YES
	Claims	NO

Citations and explanations (Rule 70.7)

NOVELTY(N), INVENTIVE STEP(IS)

No citation or obvious combination of citations discloses all of the features of the claimed invention. The nearest art is considered to be WO 2001/060874. This document discloses a method for making an acrolein polymer but does not disclose heating in an alcohol solution at a pH of no more than 7.

AMENDED CLAIMS

[received by the International Bureau on 17 March 2005 (17.03.05)
original claims 1 and 4 amended., remaining claims unchanged.
(1 page)]

1. A method of manufacture of a soluble, microbiologically active and stable acrolein polymer comprising the following steps in sequence: (a) polymerising acrolein in the presence of base to form a polymer of acrolein; (b) dissolving the polymer of acrolein in an alcohol selected from monoalcohols and polyols optionally with addition of water to form an alcohol solution of the polymer of acrolein and providing a pH of no more than 7; (c) heating the alcohol solution of the polymer of acrolein of pH of no more than 7 to form react the polymer of acrolein with the alcohol; and (d) mixing base with the polymer of acrolein.
2. A method according to claim 1 wherein the acrolein comprises a co-monomer in an amount of up to 10% by weight of the total monomer composition.
3. A method according to claim 1 wherein the acrolein polymer is a homopolymer.
4. A method according to claim 1 wherein the polymer of acrolein is collected from the polymerisation reaction as a precipitate and dissolved in the alcohol.
5. A method according to claim 1 wherein the acrolein polymer is not subject to oxidation by heating of the acrolein polymer solid in air at a temperature of at least 60°C before dissolving in the alcohol.
6. A method according to claim 1 wherein the acrolein polymer is isolated as a solid from the step of polymerisation in the presence of base and dissolved in the alcohol without a step of oxidising the isolated solid by heating in air.
7. A method according to claim 1 wherein the acrolein polymer is dissolved in the alcohol by heating the acrolein polymer in the alcohol to a temperature in the range of from 40 to 105°C.
8. A method according to claim 1 wherein alcohol is a polyalkylene glycol.